

## **Chapter 10**

### **Solid Waste**

## SOLID WASTE: INTRODUCTION

The City of Greensboro provides weekly curbside solid waste, recycling, bulk trash, white goods, and yard waste collection services to nearly all single-family, housing units. In addition to the residential collection program, the city provides commercial garbage collection services to approximately 2,500 businesses, multi-family dwellings (apartments, town homes, and condominiums). The commercial recycling program provides collection services to more than 1,150 businesses. Private waste hauling companies provide collection services for waste not collected by the City, primarily commercial and industrial waste, private residential communities and waste outside the city limits of Greensboro.

In Guilford County, there are two permitted municipal solid waste disposal facilities; the Kersey Valley Landfill, which is located in the southwestern part of the County, and the White Street Landfill, which is located in the northeastern part of the County. The Kersey Valley Landfill is owned and operated by the City of High Point. The White Street Landfill is owned and operated by the City of Greensboro.

The White Street Landfill provides disposal services for municipal solid waste, land clearing and inert debris, and for construction and demolition waste. White Street is currently the only permitted construction and demolition waste site in the County. By contract with a private company, the City provides facilities for material recovery, yard waste processing, and household hazardous waste collection. The landfill and these facilities accept waste from private haulers and individuals from within Guilford County jurisdictional boundaries.

A landfill gas collection system is installed at the White Street Facility. Under contract with Duke Engineering and Services (DE&S), the City of Greensboro collects methane from the landfill that is sold to Cone Mills Corporation as a fuel to produce steam at its White Oak Plant. DE&S, in a joint venture with the City of Greensboro, is developing anaerobic fermentation composting capabilities at the White Street facility. Upon completion, the Compost Facility will handle approximately 30,000 tons of yard waste per year.

The White Street Landfill consists of approximately 900 acres, nearly all of which is owned by the City. Approximately 94 acres of the landfill site is owned by Guilford County and is leased to the City. Phase I of the landfill was closed in 1978. Phase II of the landfill was closed in December 1997 in accordance with state regulations. In May 1997, the City issued \$16 million in special obligation bonds to finance construction of the first two cells of Phase III of the landfill, of which the first cell was completed in 1997. Cell two, constructed in the fall of 2000, began accepting waste in June of 2001. Cell three will be constructed in 2003 and is scheduled to begin filling in 2004. The life expectancy for all three cells is estimated to be 9.75 years (1998-2008).

## SOLID WASTE: SUMMARY HIGHLIGHTS

### Landfilled and Managed Waste: Greensboro

#### LANDFILLED

Waste at the White Street Landfill includes waste from public and private haulers that serve

both Greensboro and Guilford County, and can include High Point.

Between FY 1997-1998 and FY 1999-2000, Greensboro accounted for an average of 85.8 percent of the waste deposited at the White Street Landfill. Of the waste generated in fiscal year 1999-2000, 90.3 percent was landfilled.

The amount of landfilled waste generated increased by 38.9 percent between FY 1997-1998 and FY 1999-2000. Construction and Demolition led with 378.1 percent, followed by Land Clearing and Debris at 27.6 percent, and Municipal Solid Waste at 5.4 percent.

Of the waste generated in fiscal year 1999-2000, 90.3 percent was landfilled and 9.7 percent was managed or kept out of the landfill, mainly through yard waste and recycling programs. The amount of landfilled waste has increased from 88.4 percent in 1997-1998 to 90.3 percent in 1999-2000. The majority of this was due to the significant increase in construction and demolition waste. The amount of solid waste actually decreased from 58.3 percent in FY 1997-1998 to 45.2 percent in FY 1999-2000. In FY 1999-2000, 5.2 percent of the city's waste was recycled, down from a high of 6.3 percent in 1998-1999.

#### MANAGED

Managed waste tonnage between FY 1997-1998 and FY 1999-2000 increased 14.4 percent overall. Recycled waste was up 25.2 percent, yard waste was up 4.5 percent, but there was a decrease in white goods of 8.9 percent.

#### SOURCES

Between FY 1997-1998 and FY 1999-2000, Greensboro accounted for an average of 85.9 percent of the waste deposited at the White Street Landfill. Between FY 1997-1998 and FY 1999-2000, total waste sources for Greensboro and Guilford County increased by 36 percent.

#### Waste Diversion Goals: Guilford County

Between FY 1994-1995 and FY 1999-2000 the percent of municipal solid waste tons diverted from the landfill have gone from a high of 15.09 percent in FY 1995-1996 to a low of 11.60 percent in FY 1998-1999. FY 1999-2000 showed an increase to 12.43 percent and estimates show the percentage should increase to an all-time high of 15.16 percent by FY 2009-2010.

The overall tons of managed waste that was diverted from the landfill in all of Guilford County increased by 4.7 percent between FY 1994-1995 and FY 1999-2000. It is estimated that the amount diverted will increase by another 40 percent by FY 2009-2010.

Between FY 1994-1995 and FY 1999-2000, the per capita municipal solid waste reduction for the entire County went from a high of 16.89 percent in FY 1995-1996 to a low of 8.78 percent in fiscal years 1998-1999 through 2000-2001. Estimates show that this percentage should increase to 10.81 percent by 2009-2010.

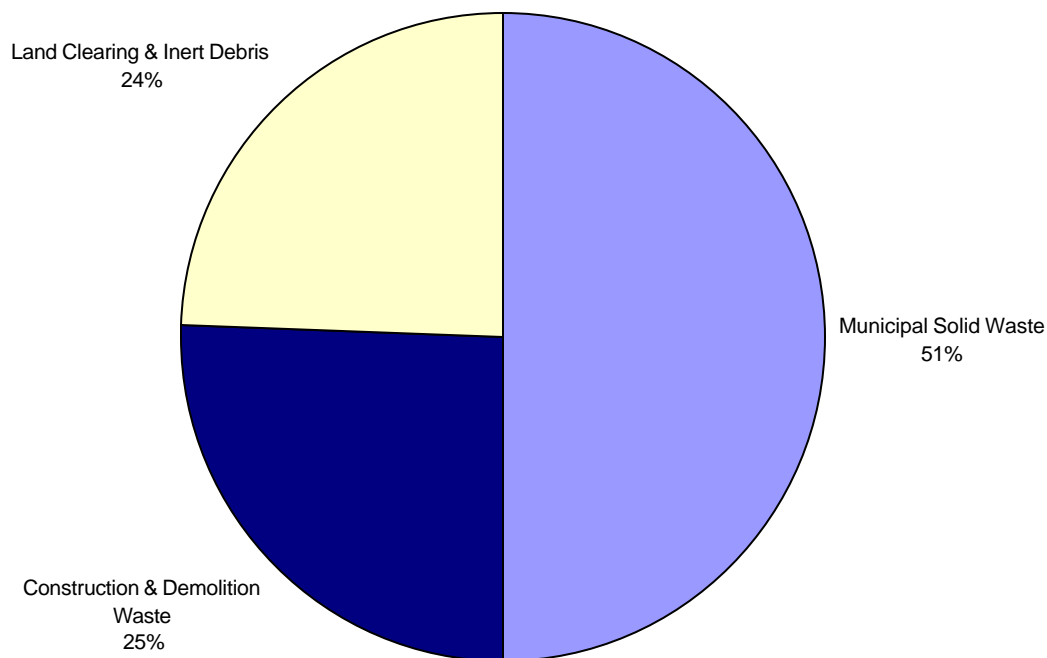
Table 10-1: White Street Landfill: Landfilled and Managed Waste 1997-1998 to 1999-2000						
Waste Type	Waste Quantity in Tons (Public and Private)					
	1997-98	Percent	1998-99	Percent	1999-00	Percent
<b>Landfilled</b>						
Municipal Solid Waste	261,027	58.3%	250,375	56.5%	275,061	45.2%
Construction & Demolition Waste	29,319	6.6%	45,292	10.2%	140,184	23.0%
Land Clearing & Inert Debris	105,228	23.5%	89,517	20.2%	134,317	22.1%
Subtotal	395,574	88.4%	385,184	86.9%	549,562	90.3%
<b>Managed, not Landfilled*</b>						
Recycled	25,188	5.6%	27,746	6.3%	31,538	5.2%
Yardwaste	25,845	5.8%	29,604	6.7%	27,001	4.4%
White Goods	741	0.2%	652	0.1%	675	0.1%
Subtotal	51,774	11.6%	58,002	13.1%	59,214	9.7%
<b>TOTAL</b>	<b>447,348</b>	<b>100.0%</b>	<b>443,186</b>	<b>100.0%</b>	<b>608,776</b>	<b>100.0%</b>

Source: City of Greensboro Solid Waste Annual Report, June 30, 1999 and June 30, 2000. \*Collected by the City of Greensboro, but not disposed of at the White Street Landfill.

Table 10-2: Sources of City of Greensboro and Guilford County Waste						
Waste Source	1997-98	Percent	1998-99	Percent	1999-00	Percent
Greensboro	382,354	85.5%	382,709	85.8%	528,795	86.5%
Guilford County	64,994	14.5%	60,477	14.2%	79,981	13.5%
Total	447,348	100.0%	443,186	100.0%	608,776	100.0%

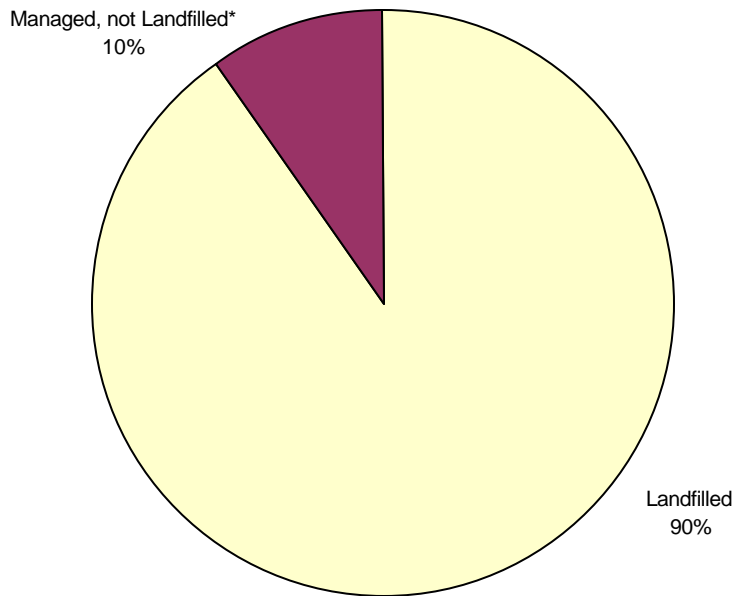
Source: SW Annual Report FY 99-00 and FY 98-99, 2000.

**Figure 10-1: White Street Landfill: Landfilled Waste, 1999-2000**



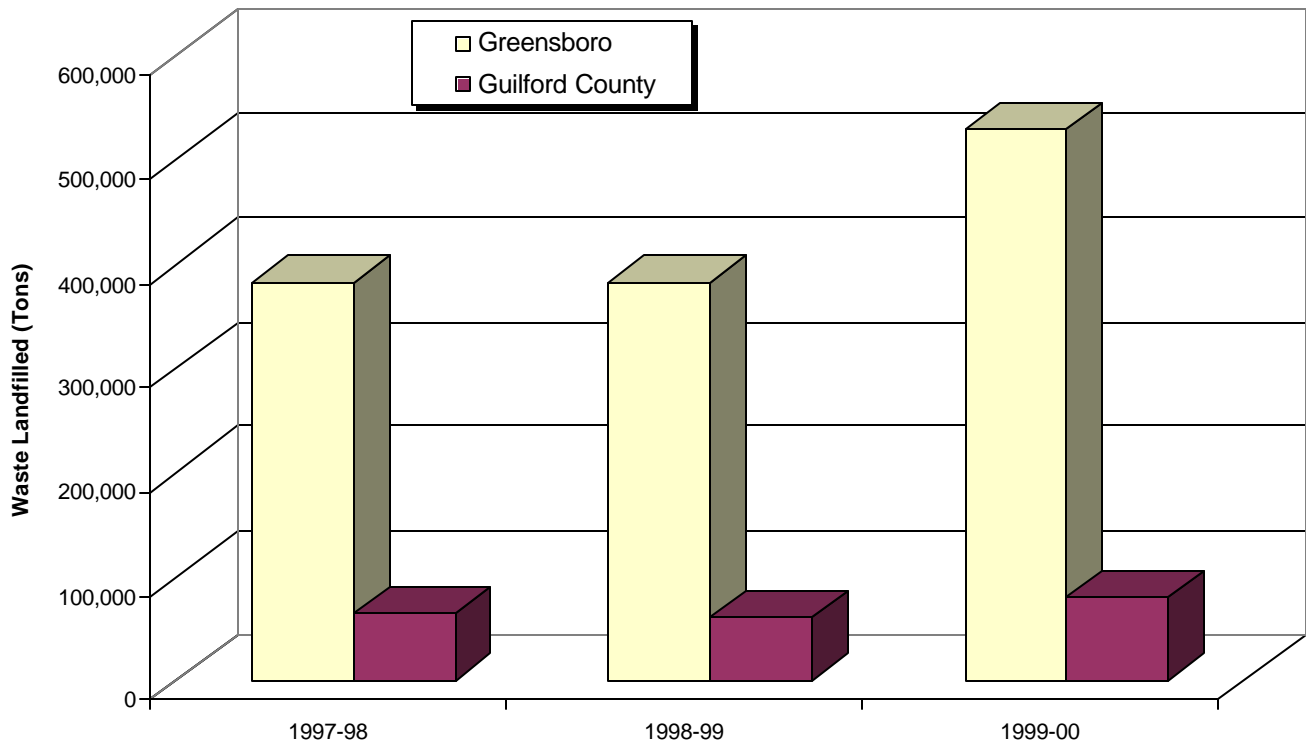
Source: City of Greensboro Solid Waste Annual Report, June 30, 1999 and June 30, 2000.

**Figure 10-2: White Street Landfill, Landfilled vs. Managed Waste, 1997-2000**



Source: City of Greensboro Solid Waste Annual Report, June 30, 1999 and June 30, 2000. \*Collected by the City of Greensboro, but not disposed of at the White Street Landfill.

**Figure 10-3: White Street Landfill: Landfilled Waste According to Source by Fiscal Year, 1997-2000**

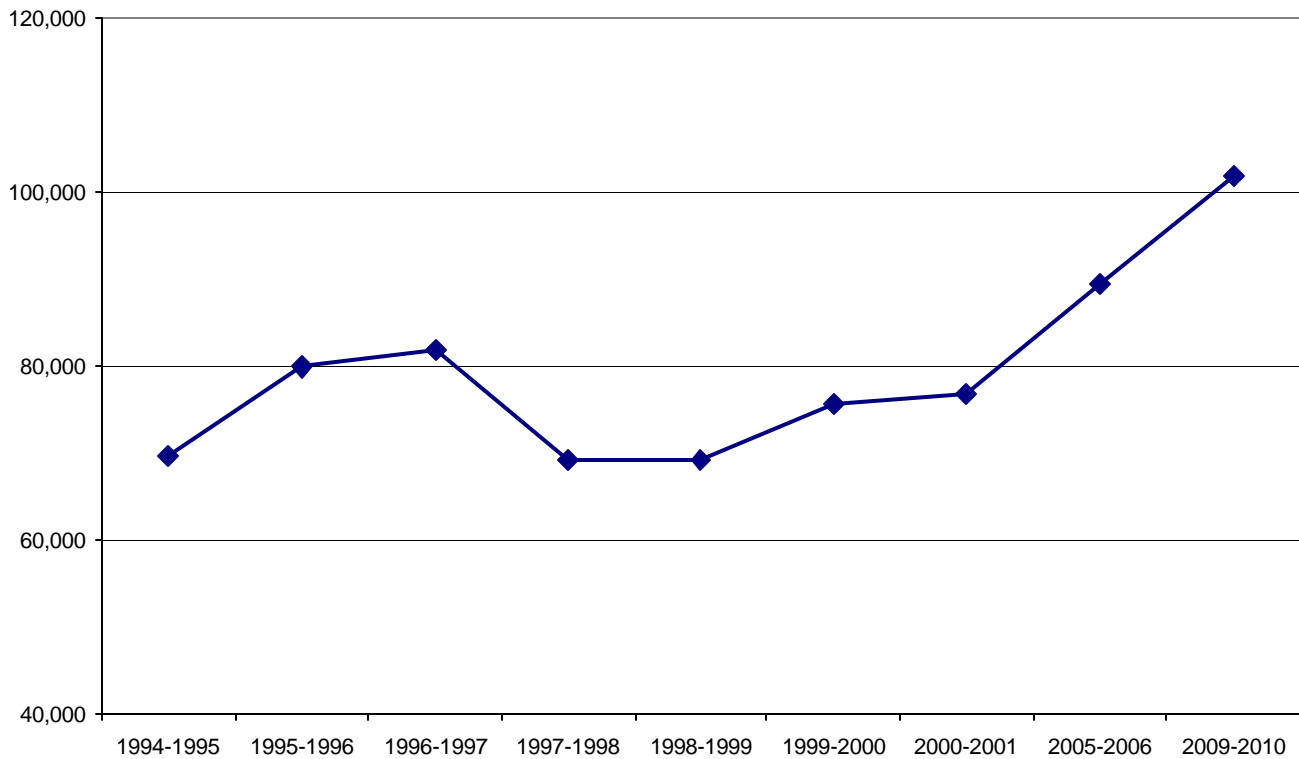


Source: SW Annual Report FY 99-00 and FY 98-99, 2000.

Table 2: Guilford County Tons Diverted by Material Type* and Future Diversion Estimates, 1994-2010						
Year	Tires	White Goods	Household Hazardous Waste	Glass/ Metal/ Paper/ Plastic	Yard Waste	Total Tons Per Year
1994-1995	5,503	728	91	40,323	22,923	69,568
1995-1996	5,435	1,100	150	34,579	38,708	79,972
1996-1997	6,209	1,200	153	31,561	42,643	81,766
1997-1998	6,300	1,662	188	25,335	35,833	69,318
1998-1999	7,031	1,310	230	32,810	27,870	69,251
1999-2000	7,650	1,355	260	32,922	33,595	75,782
2000-2001	8,250	1,400	290	33,000	34,000	76,940
2005-2006	11,250	1,625	440	38,000	38,000	89,315
2009-2010	13,650	1,805	560	43,000	43,000	102,015

Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000. \*Managed.

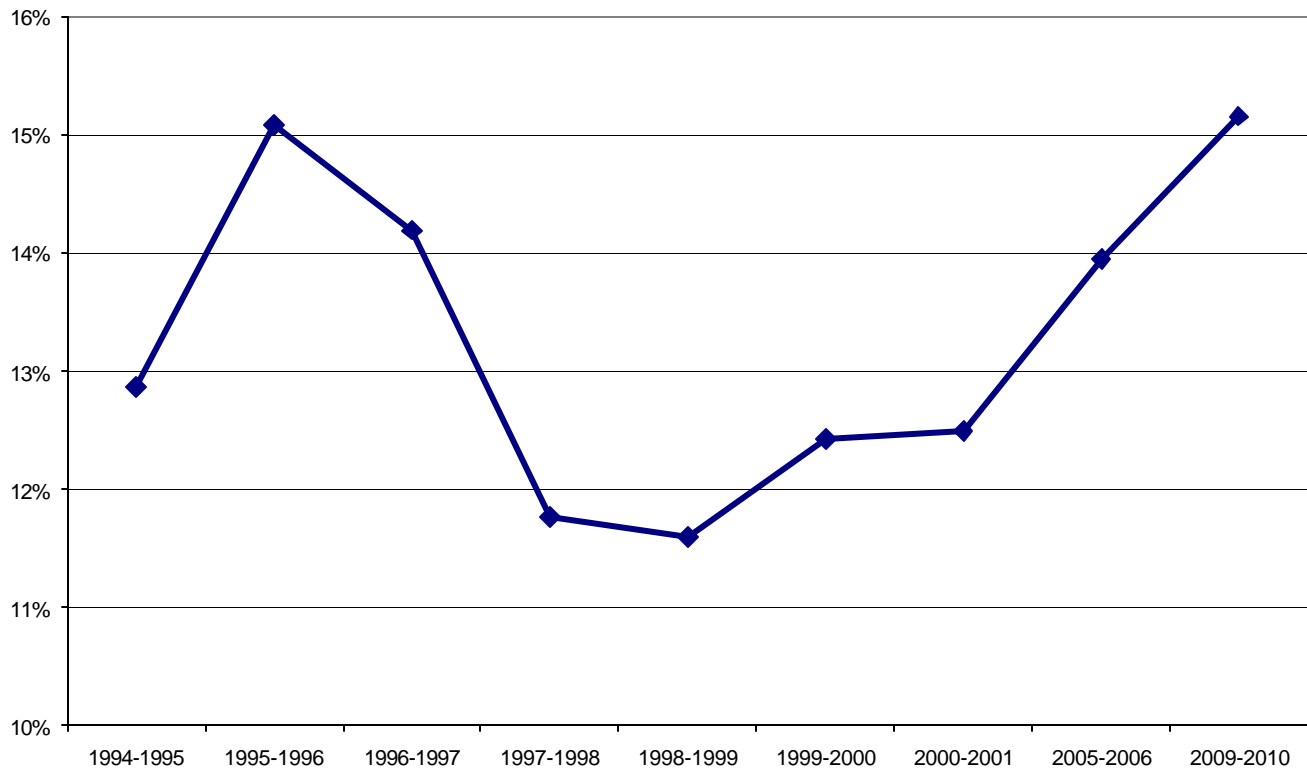
**Figure 10-4: Guilford County Tons Diverted Per Year, 1994-2010**



Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.

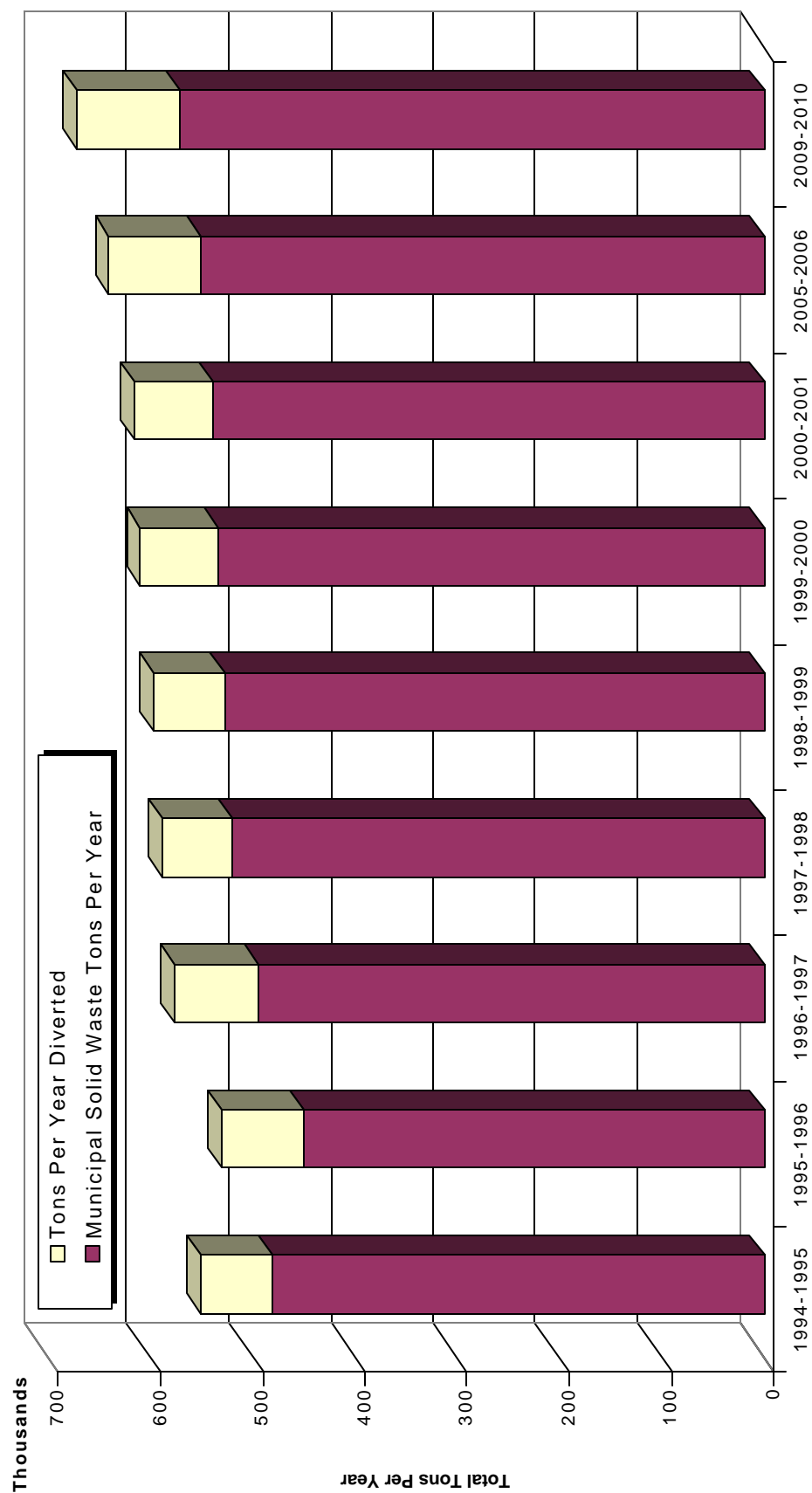
Table 10-4: Guilford County Diversion Rates and Future Diversion Estimates, 1994-2010				
Year	Municipal Solid Waste Tons Per Year	Tons Per Year Diverted	Total Tons Per Year	Percent Diversion
1994-1995	480,845	69,568	540,413	12.87%
1995-1996	449,957	79,972	529,929	15.09%
1996-1997	494,570	81,766	576,336	14.19%
1997-1998	519,485	69,318	588,803	11.77%
1998-1999	527,717	69,251	596,968	11.60%
1999-2000	533,983	75,782	609,765	12.43%
2000-2001	539,105	76,940	616,045	12.49%
2005-2006	550,865	89,315	640,180	13.95%
2009-2010	570,809	102,015	672,824	15.16%
Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.				

**Figure 10-5: Guilford County Percent Diversion Rates and Future Diversion Estimates, 1994-2010**



Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.

**Figure 10-6: Guilford County Diversion Rates and Future Diversion Estimates, 1994-2010**

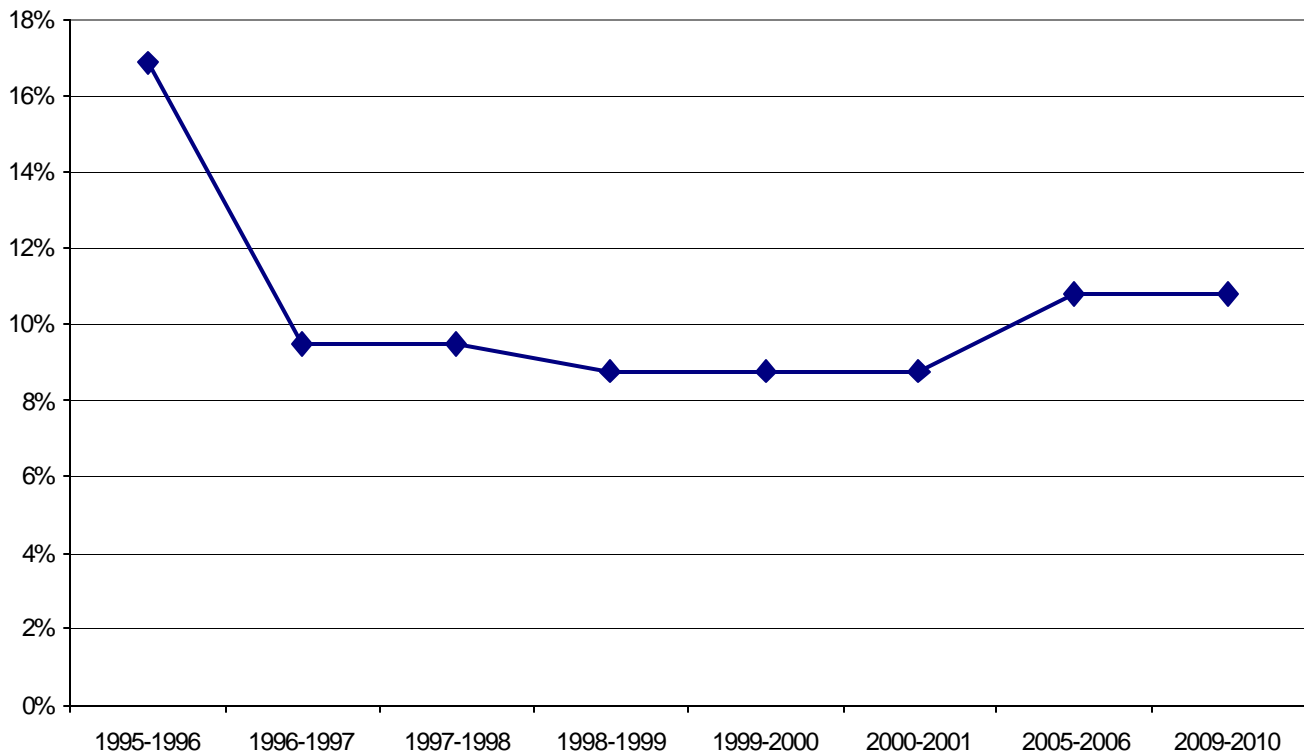


Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.

Table 10-5: Guilford County Annual Per Capita Waste Reduction and Goals, 1991-2010				
Year	Service Area Population	Total Tons Municipal Solid Waste	Per Capita Tons Per Year	Per Capita Percent Reduction
1994-1995	362,710	470,845	1.30	NA
1995-1996	365,768	449,957	1.23	16.89%
1996-1997	368,826	494,570	1.34	9.46%
1997-1998	385,852	519,485	1.34	9.46%
1998-1999	391,508	527,717	1.35	8.78%
1999-2000	395,543	533,983	1.35	8.78%
2000-2001	399,337	539,105	1.35	8.78%
2005-2006	417,322	550,865	1.32	10.81%
2009-2010	432,431	570,809	1.32	10.81%

Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.

**Figure 10-7: Guilford County Annual Per Capita Waste Reduction and Goals, 1991-2010**



Source: Guilford County Solid Waste Management Plan, Three-Year Update, May 2000.